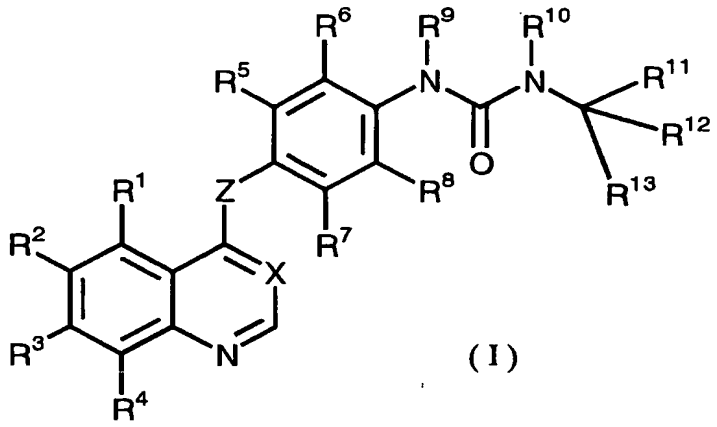
CLAIMS

1. A compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof:



(I)

wherein

X represents CH or N;

Z represents O or S;

R^1, R^2, and R^3, which may be the same or different, represent a hydrogen atom; a hologen atom; hydroxyl; cyano; C_{1-6} alkyl; C_{1-6} alkoxy; C_{2-6} alkenyl; C_{2-6} alkynyl; nitro; -$NR^{106}R^{107}$ wherein R^{106} and R^{107}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl in which the alkyl group is optionally substituted by hydroxyl, -OR^{108} wherein R^{108} represents C_{1-4} alkyl, or -$NR^{109}R^{110}$ wherein R^{109} and R^{110}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl; -$CONR^{111}R^{112}$ wherein R^{111} and R^{112}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl in which the alkyl group is optionally substituted by hydroxyl, -OR^{113} wherein R^{113} represents C_{1-4} alkyl, or -$NR^{114}R^{115}$ wherein R^{114} and R^{115}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl; or -$COOR^{116}$ wherein R^{116} represents a hydrogen atom or C_{1-4} alkyl in which the alkyl group is optionally substituted by hydroxyl, -OR^{117} wherein R^{117} represents C_{1-4} alkyl, or -$NR^{118}R^{119}$ wherein R^{118} and R^{119}, which may be the same or different, represent a hydrogen atom or C_{1-}

$_4$ alkyl in which the C_{1-6} alkyl, C_{1-6} alkoxy, C_{2-6} alkenyl, and C_{2-6} alkynyl groups are optionally substituted by a halogen atom; hydroxyl; C_{1-4} alkyl; C_{1-4} alkoxy; C_{1-4} alkoxycarbonyl; amino in which one or two hydrogen atoms on the amino group each are optionally substituted by C_{1-4} alkyl optionally substituted by hydroxyl or C_{1-4} alkoxy; group $R^{15}R^{16}N$-C(=O)-O- wherein R^{15} and R^{16}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl in which the alkyl group is optionally substituted by hydroxyl or C_{1-4} alkoxy; or group R^{17}-$(S)_m$- wherein R^{17} represents a saturated or unsaturated three- to seven-membered carbocyclic or heterocyclic group optionally substituted by a halogen atom or C_{1-4} alkyl and m is 0 (zero) or 1,

R^4 represents a hydrogen atom,

R^5, R^6, R^7, and R^8, which may be the same or different, represent a hydrogen atom, a halogen atom, C_{1-4} alkyl, C_{1-4} alkoxy, C_{1-4} alkylthio, trifluoromethyl, nitro, or amino,

R^9 and R^{10}, which may be the same or different, represent a hydrogen atom, C_{1-6} alkyl, or C_{1-4} alkylcarbonyl, and

any one of R^{11} and R^{12} represents a hydrogen atom while the other represents C_{1-4} alkyl, and R^{13} represents a saturated or unsaturated three- to seven-membered carbocyclic or heterocyclic group or a saturated or unsaturated nine- to twelve-membered bicylic carbocyclic group in which the carbocyclic and hetrocyclic groups are optionally substituted by a halogen atom; hydroxyl; C_{1-4} alkyl; C_{1-4} alkoxy; C_{1-4} alkylthio; trifluoromethyl; nitro; or $-NR^{137}R^{138}$ wherein R^{137} and R^{138}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl in which the alkyl group is optionally substituted by hydroxyl, $-OR^{139}$ wherein R^{139} represents C_{1-4} alkyl, or $-NR^{140}R^{141}$ wherein R^{140} and R^{141}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl, or

R^{11} represents a hydrogen atom, and R^{12} and R^{13} may combine with a carbon atom attached thereto to form a saturated or unsaturated nine- to twelve-membered bicyclic carbocyclic group.

2. The compound according to claim 1, wherein X represents CH.

3. The compound according to claim 1 or 2, wherein Z represents O.

4. The compound according to any one of claims 1 to 3, wherein R^1 and R^4 represent a hydrogen atom.

5. The compound according to any one of claims 1 to 4, wherein R^9 and R^{10} represent a hydrogen atom.

6. The compound according to any one of claims 1 to 5, wherein R^2 and R^3, which may be the same or different, represent C_{1-6} alkoxy, said alkoxy group being optionally substituted by a halogen atom; hydroxyl; C_{1-4} alkyl; C_{1-4} alkoxy; C_{1-4} alkoxycarbonyl; amino in which one or two hydrogen atoms on the amino group each are optionally substituted by C_{1-4} alkyl optionally substituted by hydroxyl or C_{1-4} alkoxy; or a saturated or unsaturated three- to seven-membered carbocyclic or heterocyclic group.

7. The compound according to any one of claims 1 to 6, wherein at least one of R^5, R^6, R^7 and R^8 represents a halogen atom, C_{1-4} alkyl, C_{1-4} alkoxy, C_{1-4} alkylthio, trifluoromethyl, nitro, or amino, and the other(s) represents a hydrogen atom.

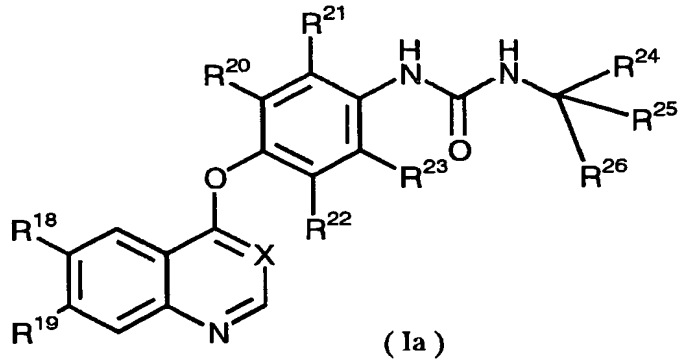
8. The compound according to any one of claims 1 to 6, wherein all of R^5, R^6, R^7 and R^8 represent a hydrogen atom.

9. The compound according to any one of claims 1 to 8, wherein any one of R^{11} and R^{12} represents a hydrogen atom and the other represents C_{1-4} alkyl, and R^{13} represents phenyl, naphthyl, imidazolyl, oxazolyl, thiazolyl, pyrazolyl, isoxazolyl, or isothiazolyl, said groups being optionally substituted by a

halogen atom, C_{1-4} alkyl, C_{1-4} alkoxy, C_{1-4} alkylthio, trifluoromethyl, nitro, or amino in which one or two hydrogen atoms on the amino group each are optionally substituted by C_{1-4} alkyl, or

R^{11} represents a hydrogen atom, and R^{12} and R^{13} combine with a carbon atom attached thereto to form 1,2,3,4-tetrahydronaphthalene or indan.

10. The compound according to claim 1, represented by formula (Ia):



(Ia)

wherein

X represents CH or N,

R^{18} and R^{19}, which may be the same or different, represent C_{1-6} alkoxy, said alkoxy group being optionally substituted by a halogen atom; hydroxyl; C_{1-4} alkyl; C_{1-4} alkoxycarbonyl; amino in which one or two hydrogen atoms on the amino group each are optionally substituted by C_{1-4} alkyl optionally substituted by hydroxyl or C_{1-4} alkoxy; or a saturated or unsaturated three- to seven-membered carbocyclic or heterocyclic group,

R^{20}, R^{21}, R^{22}, and R^{23}, which may be the same or different, represent a hydrogen atom, a halogen atom, C_{1-4} alkyl, C_{1-4} alkoxy, C_{1-4} alkylthio, trifluoromethyl, nitro, or amino,

any one of R^{24} and R^{25} represents a hydrogen atom and the other represents C_{1-4} alkyl, and R^{26} represents phenyl, naphthyl, imidazolyl, oxazolyl, thiazolyl, pyrazolyl, isoxazolyl, or isothiazolyl, said groups being optionally substituted by a

halogen atom, C_{1-4} alkyl, C_{1-4} alkoxy, C_{1-4} alkylthio, trifluoromethyl, nitro, or amino in which one or two hydrogen atoms on the amino group each are optionally substituted by C_{1-4} alkyl, or

R^{24} represents a hydrogen atom, and R^{25} and R^{26} combine with a carbon atom attached thereto to form 1,2,3,4-tetrahydronaphthalene or indan.

11. The compound according to claim 10, wherein X represents CH.

12. The compound according to claim 10 or 11, wherein R^{18} and R^{19}, which may be the same or different, represent C_{1-6} alkoxy optionally substituted by a saturated or unsaturated three- to seven-membered carbocyclic or heterocyclic group.

13. The compound according to any one of claims 10 to 12, wherein at least one of R^{20}, R^{21}, R^{22} and R^{23} represents a halogen atom, C_{1-4} alkyl, C_{1-4} alkoxy, C_{1-4} alkylthio, trifluoromethyl, nitro, or amino, and the other(s) represents a hydrogen atom.

14. The compound according to any one of claims 10 to 12, wherein R^{20} and R^{21}, which may be the same or different, represent a halogen atom, C_{1-4} alkyl, C_{1-4} alkoxy, C_{1-4} alkylthio, trifluoromethyl, nitro, or amino, and R^{22} and R^{23} represent a hydrogen atom.

15. The compound according to any one of claims 10 to 12, wherein R^{21} and R^{22}, which may be the same or different, represent a halogen atom, C_{1-4} alkyl, C_{1-4} alkoxy, C_{1-4} alkylthio, trifluoromethyl, nitro, or amino, and R^{20} and R^{23} represent a hydrogen atom.

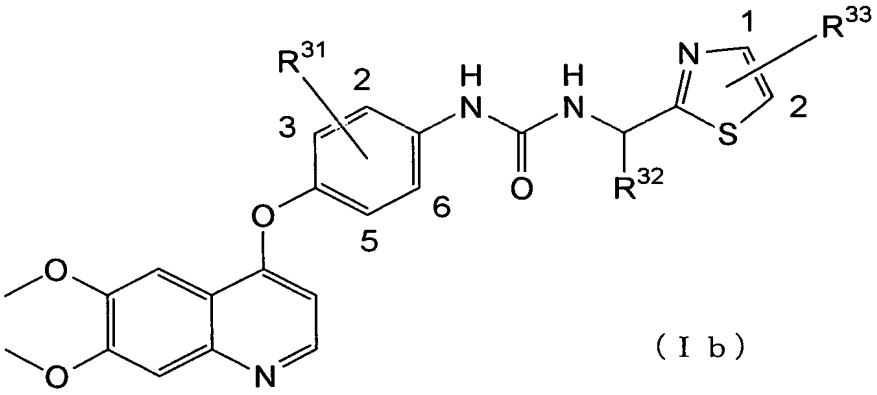
16. The compound according to any one of claims 10 to 12, wherein all of R^{20}, R^{21}, R^{22}, and R^{23} represent a hydrogen

atom.

17. The compound according to any one of claims 10 to 16, wherein R^{26} represents thiazolyl.

18. The compound according to any one of claims 10 to 16, wherein R^{26} represents 4-fluorophenyl.

19. The compound according to claim 1, represented by formula (Ib)



(Ib)

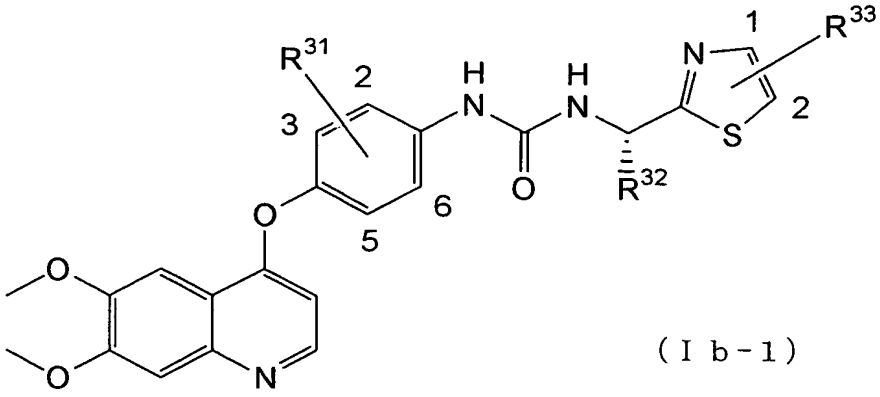
wherein

R^{31} represents a hydrogen atom, a fluorine atom at 2-position, a fluorine atom at 3-position, methoxy at 2-position, methoxy at 3-position, or methyl at 2- and 5-positions,

R^{32} represents methyl, and

R^{33} represents a hydrogen atom, methyl at 1-position, methyl at 2-position, or methyl at 1- and 2-positions.

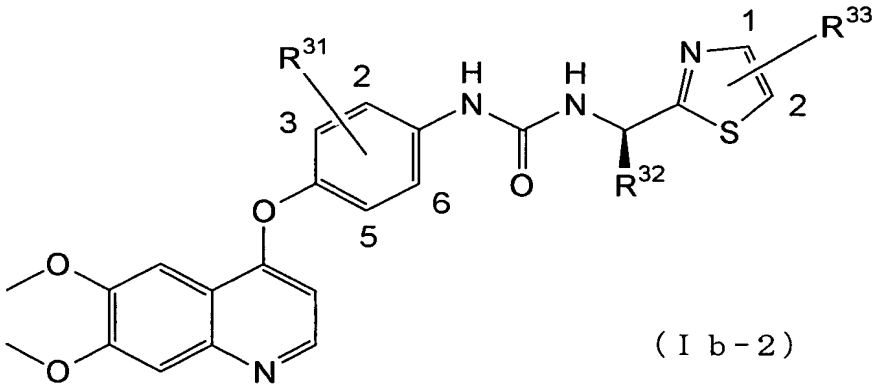
20. The compound according to claim 19, wherein the compound represented by formula (Ib) is represented by formula (Ib-1)



(Ib-1)

wherein R^{31}, R^{32}, and R^{33} are as defined in formula (Ib).

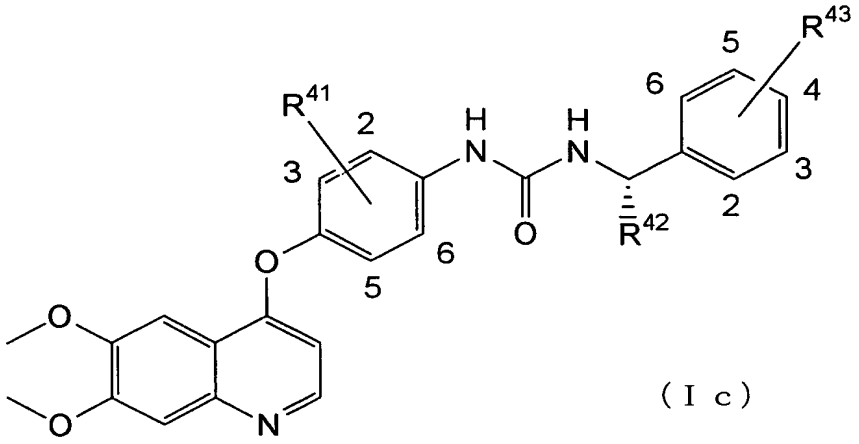
21. The compound according to claim 19, wherein the compound represented by formula (Ib) is represented by formula (1b-2)



(Ib-2)

wherein R^{31}, R^{32}, and R^{33} are as defined in formula (Ib).

22. The compound according to claim 1, represented by formula (Ic)



(I c)

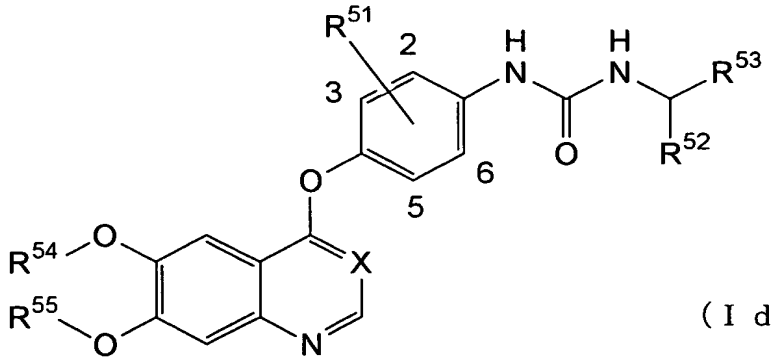
wherein

R^{41} represents a hydrogen atom, a fluorine atom at 2-position, a fluorine atom at 3-position, a chlorine atom at 2-position, a chlorine atom at 3-position, methyl at 2- and 3-positions, methyl at 2- and 5-positions, methoxy at 2-position, methoxy at 3-position, methyl at 2-position, or trifluoromethyl at 2-position,

R^{42} represents methyl,

R^{43} represents a fluorine atom at 4-position, a bromine atom at 3-position, a bromine atom at 4-position, methoxy at 2-position, methoxy at 3-position, methoxy at 4-position, a chlorine atom at 4-position, methyl at 4-position, or nitro at 4-position.

23. The compound according to claim 1, represented by formula (Id)



(I d)

wherein

X represents CH or N,

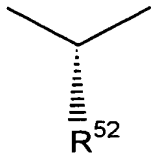
R^{51} represents a hydrogen atom, a fluorine atom at 2-position, a fluorine atom at 3-position, methoxy at 2-position, methoxy at 3-position, or methyl at 2- and 5-positions,

R^{52} represents methyl,

R^{53} represents imidazolyl, pyrazolyl, oxazolyl, isoxazolyl, thiazolyl, or isothiazolyl in which one or two hydrogen atoms on the groups are optionally substituted by a halogen atom or C_{1-4} alkyl, and

R^{54} and R^{55}, which may be the same or different, represent a hydrogen atom or C_{1-6} alkyl in which the alkyl group is optionally substituted by hydroxyl; a halogen atom; $-OR^{56}$ wherein R^{56} represents C_{1-4} alkyl; $-NR^{57}R^{58}$ wherein R^{57} and R^{58}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl in which the alkyl group is optionally substituted by hydroxyl or $-OR^{59}$ wherein R^{59} represents C_{1-4} alkyl; or a saturated or unsaturated three- to seven-membered carbocyclic or heterocyclic group in which the carbocyclic and heterocyclic groups are optionally substituted by one or two halogen atoms or C_{1-4} alkyl.

24. The compound according to claim 23, wherein X represents CH, and R^{52} represents



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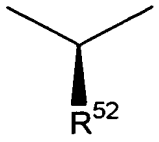
25. The compound according to claim 24, wherein R^{54} and R^{55} represent methyl.

26. The compound according to claim 24, wherein R^{54} represents methyl, and R^{55} represents C_{1-4} alkyl substituted by a saturated or unsaturated five- or six-membered carbocyclic or heterocyclic group.

27. The compound according to claim 23, wherein X

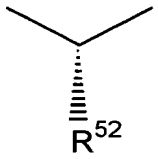
represents CH, and R^{52} represents



28. The compound according to claim 27, wherein R^{54} and R^{55} represent methyl.

29. The compound according to claim 27, wherein R^{54} represents methyl, and R^{55} represents C_{1-4} alkyl substituted by a saturated or unsaturated five- or six-membered carbocyclic or heterocyclic group.

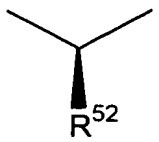
30. The compound according to claim 23, wherein X represents N, and R^{52} represents



31. The compound according to claim 30, wherein R^{54} and R^{55} represent methyl.

32. The compound according to claim 30, wherein R^{54} represents methyl, and R^{55} represents C_{1-4} alkyl substituted by a saturated or unsaturated five- or six-membered carbocyclic or heterocyclic group.

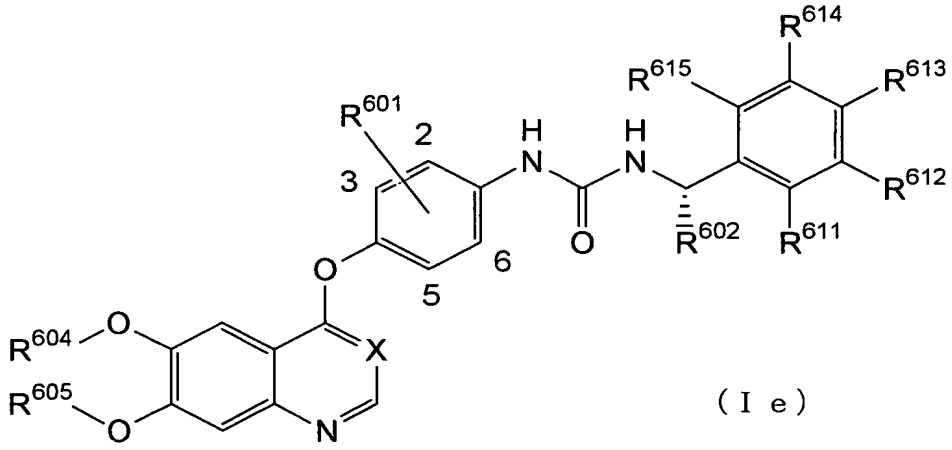
33. The compound according to claim 23, wherein X represents N, and R^{52} represents



34. The compound according to claim 33, wherein R^{54} and R^{55} represent methyl.

35. The compound according to claim 33, wherein R^{54} represents methyl, and R^{55} represents C_{1-4} alkyl substituted by a saturated or unsaturated five- or six-membered carbocyclic or heterocyclic group.

36. The compound according to claim 1, represented by formula (Ie)



(Ie)

wherein

R^{601} represents a hydrogen atom, a fluorine atom at 2-position, a fluorine atom at 3-position, a chlorine atom at 2-position, a chlorine atom at 3-position, methyl at 2- and 3-positions, methyl at 2- and 5-positions, methoxy at 2-position, methoxy at 3-position, methyl at 2-position, or trifluoromethyl at 2-position,

R^{602} represents methyl,

X represents N or CH,

R^{604} and R^{605}, which may be the same or different, represent a hydrogen atom or C_{1-6} alkyl in which the alkyl group is optionally substituted by hydroxyl; a halogen atom; $-OR^{606}$ wherein R^{606} represents C_{1-4} alkyl; $-NR^{607}R^{608}$ wherein R^{607} and R^{608}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl in which the alkyl group is optionally substituted by hydroxyl or $-OR^{609}$ wherein R^{609} represents C_{1-4}

alkyl; or a saturated or unsaturated three- to seven-membered carbocyclic or heterocyclic group in which the carbocyclic and heterocyclic groups are optionally substituted by one or two halogen atoms or C_{1-4} alkyl, and

R^{611}, R^{612}, R^{613}, R^{614}, and R^{615}, which may be the same or different, represent a hydrogen atom; C_{1-6} alkyl; $-OR^{616}$ wherein R^{616} represents C_{1-4} alkyl; a halogen atom; nitro; or $-NR^{617}R^{618}$ wherein R^{617} and R^{618}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl in which the alkyl group is optionally substituted by hydroxyl, $-OR^{619}$ wherein R^{619} represents C_{1-4} alkyl, or $-NR^{620}R^{621}$ wherein R^{620} and R^{621}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl.

37. The compound according to claim 36, wherein X represents CH and all of R^{611}, R^{612}, R^{613}, R^{614}, and R^{615} represent a hydrogen atom, or any one of R^{611}, R^{612}, R^{613}, R^{614}, and R^{615} represents a group other than a hydrogen atom and the remaining groups represent a hydrogen atom.

38. The compound according to claim 37, wherein all of R^{611}, R^{612}, R^{613}, R^{614}, and R^{615} represent a hydrogen atom, or any one of R^{611}, R^{612}, R^{613}, R^{614}, and R^{615} represents C_{1-6} alkyl, $-OR^{616}$, a halogen atom, or nitro and the remaining groups represent a hydrogen atom.

39. The compound according to claim 38, wherein R^{611} represents methoxy and R^{612}, R^{613}, R^{614}, and R^{615} represent a hydrogen atom, or R^{612} represents a bromine atom or methoxy and R^{611}, R^{613}, R^{614}, and R^{615} represent a hydrogen atom, or R^{613} represents a bromine atom, a chlorine atom, a fluorine atom, methyl, methoxy, or nitro and R^{611}, R^{612}, R^{614}, and R^{615} represent a hydrogen atom.

40. The compound according to claim 37, 38, or 39, wherein R^{604} and R^{605} represent methyl.

41. The compound according to claim 37, 38, or 39, wherein R^{604} represents methyl and R^{605} represents C_{1-4} alkyl substituted by a saturated or unsaturated five- or six-membered carbocyclic or heterocyclic group.

42. The compound according to claim 36, wherein X represents N and all of R^{611}, R^{612}, R^{613}, R^{614}, and R^{615} represent a hydrogen atom, or any one of R^{611}, R^{612}, R^{613}, R^{614}, and R^{615} represents a group other than a hydrogen atom and the remaining groups represent a hydrogen atom.

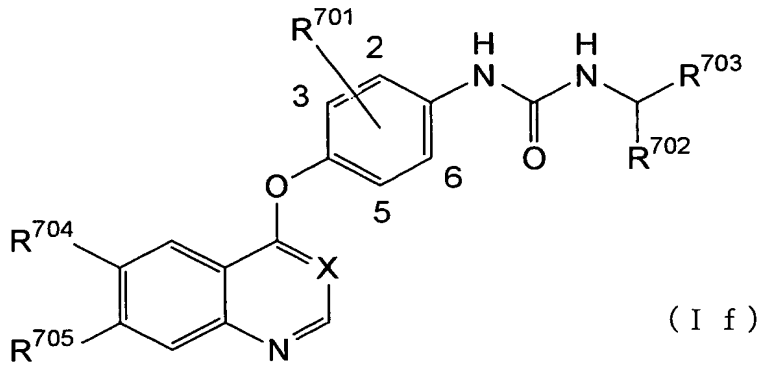
43. The compound according to claim 42, wherein all of R^{611}, R^{612}, R^{613}, R^{614}, and R^{615} represent a hydrogen atom, or any one of R^{611}, R^{612}, R^{613}, R^{614}, and R^{615} represents C_{1-6} alkyl, $-OR^{616}$, a halogen atom, or nitro and the remaining groups represent a hydrogen atom.

44. The compound according to claim 43, wherein R^{611} represents methoxy and R^{612}, R^{613}, R^{614}, and R^{615} represent a hydrogen atom, or R^{612} represents a bromine atom or methoxy and R^{611}, R^{613}, R^{614}, and R^{615} represent a hydrogen atom, or R^{613} represents a bromine atom, a chlorine atom, a fluorine atom, methyl, methoxy, or nitro and R^{611}, R^{612}, R^{614}, and R^{615} represent a hydrogen atom.

45. The compound according to claim 42, 43, or 44, wherein R^{604} and R^{605} represent methyl.

46. The compound according to claim 42, 43, or 44, wherein R^{604} represents methyl and R^{605} represents C_{1-4} alkyl substituted by a saturated or unsaturated five- or six-membered carbocyclic or heterocyclic group.

47. The compound according to claim 1, represented by formula (If)



(I f)

wherein

X represents CH or N,

R^{701} represents a hydrogen atom, a fluorine atom at 2-position, a fluorine atom at 3-position, methoxy at 2-position, methoxy at 3-position, or methyl at 2- and 5-positions,

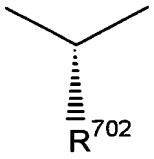
R^{702} represents C_{1-4} alkyl,

R^{703} represents imidazolyl, pyrazolyl, oxazolyl, isoxazolyl, thiazolyl, or isothiazolyl in which one or two hydrogen atoms on the groups are optionally substituted by a halogen atom or C_{1-4} alkyl, and

R^{704} and R^{705}, which may be the same or different, represent a hydrogen atom; hydroxyl; nitro; cyano; a halogen atom; $-NR^{706}R^{707}$ wherein R^{706} and R^{707}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl in which the alkyl group is optionally substituted by hydroxyl, $-OR^{708}$ wherein R^{708} represents C_{1-4} alkyl, or $-NR^{709}R^{710}$ wherein R^{709} and R^{710}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl; $—CONR^{711}R^{712}$ wherein R^{711} and R^{712}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl in which the alkyl group is optionally substituted by hydroxyl, $-OR^{713}$ wherein R^{713} represents C_{1-4} alkyl, or $-NR^{714}R^{715}$ wherein R^{714} and R^{715}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl; $—COOR^{716}$ wherein R^{716} represents a hydrogen atom or C_{1-4} alkyl in which the alkyl group is optionally substituted by hydroxyl, $-OR^{717}$ wherein R^{717} represents C_{1-4} alkyl, or -

$NR^{718}R^{719}$ wherein R^{718} and R^{719}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl; C_{1-6} alkyl; C_{2-6} alkenyl; C_{2-6} alkynyl; or C_{1-6} alkoxy, in which the alkyl, alkenyl, alkynyl, and alkoxy groups are optionally substituted by hydroxyl, a halogen atom, $-OR^{720}$ in which R^{720} represents C_{1-4} alkyl, $-NR^{721}R^{722}$ wherein R^{721} and R^{722}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl in which the alkyl group is optionally substituted by hydroxyl or $-OR^{723}$ wherein R^{723} represents C_{1-4} alkyl, or a saturated or unsaturated three- to seven-membered carbocyclic or heterocyclic group in which the carbocyclic and heterocyclic groups are optionally substituted by one or two halogen atoms or C_{1-4} alkyl.

48. The compound according to claim 47, wherein X represents CH, and R^{702} represents



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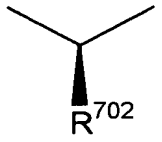
49. The compound according to claim 48, wherein R^{702} represents methyl.

50. The compound according to claim 48 or 49, wherein R^{704} and R^{705} represent methoxy.

51. The compound according to claim 48 or 49, wherein R^{704} represents methoxy, and R^{705} represents C_{1-4} alkoxy substituted by a saturated or unsaturated five- or six-membered carbocyclic or heterocyclic group.

52. The compound according to claim 47, wherein X represents CH, and R^{702} represents

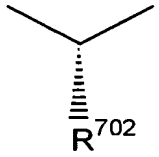


53. The compound according to claim 52, wherein R^{702} represents methyl.

54. The compound according to claim 52 or 53, wherein R^{704} and R^{705} represent methoxy.

55. The compound according to claim 52 or 53, wherein R^{704} represents methoxy, and R^{705} represents C_{1-4} alkoxy substituted by a saturated or unsaturated five- or six-membered carbocyclic or heterocyclic group.

56. The compound according to claim 47, wherein X represents N, and R^{702} represents

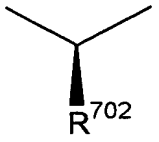


57. The compound according to claim 56, wherein R^{702} represents methyl.

58. The compound according to claim 56 or 57, wherein R^{704} and R^{705} represent methoxy.

59. The compound according to claim 56 or 57, wherein R^{704} represents methoxy, R^{705} represents C_{1-4} alkoxy substituted by a saturated or unsaturated five- or six-membered carbocyclic or heterocyclic group.

60. The compound according to claim 47, wherein X represents N, and R^{702} represents

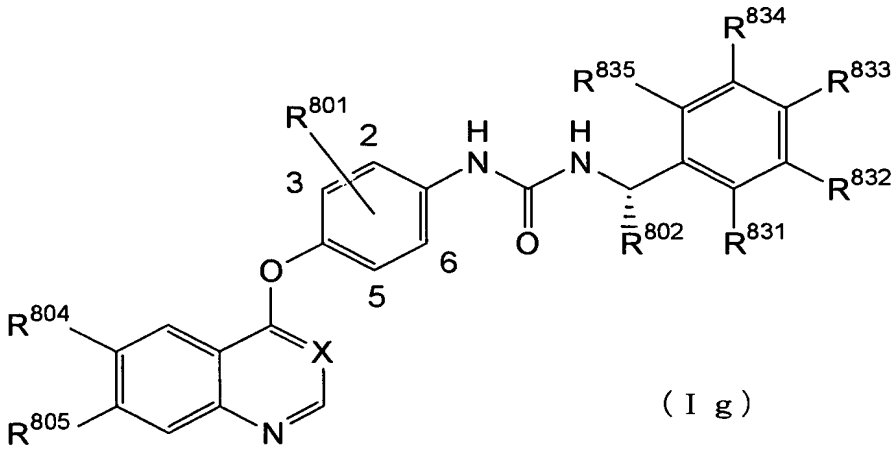


61. The compound according to claim 60, wherein R^{702} represents methyl.

62. The compound according to claim 60 or 61, wherein R^{704} and R^{705} represent methoxy.

63. The compound according to claim 60 or 61, wherein R^{704} represents methoxy, and R^{705} represents C_{1-4} alkoxy substituted by a saturated or unsaturated five- or six-membered carbocyclic or heterocyclic group.

64. The compound according to claim 1, represented by formula (Ig)



(Ig)

wherein

X represents CH or N,

R^{801} represents a hydrogen atom, a fluorine atom at 2-position, a fluorine atom at 3-position, a chlorine atom at 2-position, a chlorine atom at 3-position, methyl at 2- and 3-positions, methyl at 2- and 5-positions, methoxy at 2-position, methoxy at 3-position, methyl at 2-position, or trifluoromethyl at 2-position,

R^{802} represents C_{1-4} alkyl,

R^{804} and R^{805}, which may be the same or different, represent a hydrogen atom; hydroxyl; nitro; cyano; a halogen atom; $-NR^{806}R^{807}$ wherein R^{806} and R^{807}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl in which the alkyl group is optionally substituted by hydroxyl, $-OR^{808}$ wherein R^{808} represents C_{1-4} alkyl, or $-NR^{809}R^{810}$ wherein R^{809} and R^{810}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl; $—CONR^{811}R^{812}$ wherein R^{811} and R^{812}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl in which the alkyl group is optionally substituted by hydroxyl, $-OR^{813}$ wherein R^{813} represents C_{1-4} alkyl, or $-NR^{814}R^{815}$ wherein R^{814} and R^{815}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl; $—COOR^{816}$ wherein R^{816} represents a hydrogen atom or C_{1-4} alkyl in which the alkyl group is optionally substituted by hydroxyl, $-OR^{817}$ wherein R^{817} represents C_{1-4} alkyl, or $-NR^{818}R^{819}$ wherein R^{818} and R^{819}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl; C_{1-6} alkyl; C_{2-6} alkenyl; C_{2-6} alkynyl; or C_{1-6} alkoxy, in which the alkyl, alkenyl, alkynyl, and alkoxy groups are optionally substituted by hydroxyl, a halogen atom, $-OR^{820}$ in which R^{820} represents C_{1-4} alkyl, $-NR^{821}R^{822}$ wherein R^{821} and R^{822}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl in which the alkyl group is optionally substituted by hydroxyl or $-OR^{823}$ wherein R^{823} represents C_{1-4} alkyl, or a saturated or unsaturated three- to seven-membered carbocyclic or heterocyclic group in which the carbocyclic and heterocyclic groups are optionally substituted by one or two halogen atoms or C_{1-4} alkyl, and

R^{831}, R^{832}, R^{833}, R^{834}, and R^{835}, which may be the same or different, represent a hydrogen atom; hydroxyl; C_{1-6} alkyl; $-OR^{836}$ wherein R^{836} represents C_{1-4} alkyl; a halogen atom; nitro; or $-NR^{837}R^{838}$ wherein R^{837} and R^{838}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl in which the alkyl group is optionally substituted by hydroxyl, $-OR^{839}$ wherein

R^{839} represents C_{1-4} alkyl, or $-NR^{840}R^{841}$ wherein R^{840} and R^{841}, which may be the same or different, represent a hydrogen atom or C_{1-4} alkyl.

65. The compound according to claim 64, wherein X represents CH and all of R^{831}, R^{832}, R^{833}, R^{834}, and R^{835} represent a hydrogen atom, or any one of R^{831}, R^{832}, R^{833}, R^{834}, and R^{835} represents a group other than a hydrogen atom and the remaining groups represent a hydrogen atom.

66. The compound according to claim 65, wherein all of R^{831}, R^{832}, R^{833}, R^{834}, and R^{835} represent a hydrogen atom, or any one of R^{831}, R^{832}, R^{833}, R^{834}, and R^{835} represents C_{1-6} alkyl, $-OR^{836}$, a halogen atom, or nitro and the remaining groups represent a hydrogen atom.

67. The compound according to claim 65, wherein R^{831} represents methoxy and R^{832}, R^{833}, R^{834}, and R^{835} represent a hydrogen atom, or R^{832} represents a bromine atom or methoxy and R^{831}, R^{833}, R^{834}, and R^{835} represent a hydrogen atom, or R^{833} represents a bromine atom, a chlorine atom, a fluorine atom, methyl, methoxy, or nitro and R^{831}, R^{832}, R^{834}, and R^{835} represent a hydrogen atom.

68. The compound according to claim 65, 66, or 67, wherein R^{804} and R^{805} represent methoxy.

69. The compound according to claim 65, 66, or 67, wherein R^{804} represents methoxy and R^{805} represents C_{1-4} alkoxy substituted by a saturated or unsaturated five- or six-membered carbocyclic or heterocyclic group.

70. The compound according to claim 64, wherein X represents CH, R^{802} represents methyl, and all of R^{831}, R^{832}, R^{833}, R^{834}, and R^{835} represent a hydrogen atom, or any one of R^{831}, R^{832}, R^{833}, R^{834}, and R^{835} represents a group other than a

hydrogen atom and the remaining groups represent a hydrogen atom.

71. The compound according to claim 70, wherein all of R^{831}, R^{832}, R^{833}, R^{834}, and R^{835} represent a hydrogen atom, or any one of R^{831}, R^{832}, R^{833}, R^{834}, and R^{835} represents C_{1-6} alkyl, -OR^{836}, a halogen atom, or nitro and the remaining groups represent a hydrogen atom.

72. The compound according to claim 70, wherein R^{831} represents methoxy and R^{832}, R^{833}, R^{834}, and R^{835} represent a hydrogen atom, or R^{832} represents a bromine atom or methoxy and R^{831}, R^{833}, R^{834}, and R^{835} represent a hydrogen atom, or R^{833} represents a bromine atom, a chlorine atom, a fluorine atom, methyl, methoxy, or nitro and R^{831}, R^{832}, R^{834}, and R^{835} represent a hydrogen atom.

73. The compound according to claim 70, 71, or 72, wherein R^{804} and R^{805} represent methoxy.

74. The compound according to claim 70, 71, or 72, wherein R^{804} represents methoxy and R^{805} represents C_{1-4} alkoxy substituted by a saturated or unsaturated five- or six-membered carbocyclic or heterocyclic group.

75. The compound according to claim 64, wherein X represents N and all of R^{831}, R^{832}, R^{833}, R^{834}, and R^{835} represent a hydrogen atom, or any one of R^{831}, R^{832}, R^{833}, R^{834}, and R^{835} represents a group other than a hydrogen atom and the remaining groups represent a hydrogen atom.

76. The compound according to claim 75, wherein all of R^{831}, R^{832}, R^{833}, R^{834}, and R^{835} represent a hydrogen atom, or any one of R^{831}, R^{832}, R^{833}, R^{834}, and R^{835} represents C_{1-6} alkyl, -OR^{836}, a halogen atom, or nitro and the remaining groups represent a hydrogen atom.

77. The compound according to claim 75, wherein R^{831} represents methoxy and R^{832}, R^{833}, R^{834}, and R^{835} represent a hydrogen atom, or R^{832} represents a bromine atom or methoxy and R^{831}, R^{833}, R^{834}, and R^{835} represent a hydrogen atom, or R^{833} represents a bromine atom, a chlorine atom, a fluorine atom, methyl, methoxy, or nitro and R^{831}, R^{832}, R^{834}, and R^{835} represent a hydrogen atom.

78. The compound according to claim 75, 76, or 77, wherein R^{804} and R^{805} represent methoxy.

79. The compound according to claim 75, 76, or 77, wherein R^{804} represents methoxy and R^{805} represents C_{1-4} alkoxy substituted by a saturated or unsaturated five- or six-membered carbocyclic or heterocyclic group.

80. The compound according to claim 64, wherein X represents N, R^{802} represents methyl, and all of R^{831}, R^{832}, R^{833}, R^{834}, and R^{835} represent a hydrogen atom, or any one of R^{831}, R^{832}, R^{833}, R^{834}, and R^{835} represents a group other than a hydrogen atom and the remaining groups represent a hydrogen atom.

81. The compound according to claim 80, wherein all of R^{831}, R^{832}, R^{833}, R^{834}, and R^{835} represent a hydrogen atom, or any one of R^{831}, R^{832}, R^{833}, R^{834}, and R^{835} represents C_{1-6} alkyl, $-OR^{836}$, a halogen atom, or nitro and the remaining groups represent a hydrogen atom.

82. The compound according to claim 80, wherein R^{831} represents methoxy and R^{832}, R^{833}, R^{834}, and R^{835} represent a hydrogen atom, or R^{832} represents a bromine atom or methoxy and R^{831}, R^{833}, R^{834}, and R^{835} represent a hydrogen atom, or R^{833} represents a bromine atom, a chlorine atom, a fluorine atom, methyl, methoxy, or nitro and R^{831}, R^{832}, R^{834}, and R^{835}

represent a hydrogen atom.

83. The compound according to claim 80, 81, or 82, wherein R^{804} and R^{805} represent methoxy.

84. The compound according to claim 80, 81, or 82, wherein R^{804} represents methoxy and R^{805} represents C_{1-4} alkoxy substituted by a saturated or unsaturated five- or six-membered carbocyclic or heterocyclic group.

85. The compound according to claim 1, which is a compound selected from a group of the following compounds, or a pharmaceutically acceptable salt or solvate thereof:

(17) N-{4-[(6,7-dimethoxy-4-quinolyl)oxy]-2-methoxyphenyl}-N'-[(1S)-1-(4-fluorophenyl)ethyl]urea;

(74) N-{4-[(6,7-dimethoxy-4-quinolyl)oxy]-2-methoxyphenyl}-N'-[1-(1,3-thiazol-2-yl)ethyl]urea;

(75) N-{4-[(6,7-dimethoxy-4-quinolyl)oxy]-2-methoxyphenyl}-N'-[(1S)-1-(1,3-thiazol-2-yl)ethyl]urea; and

(76) N-{4-[(6,7-dimethoxy-4-quinolyl)oxy]-2-methoxyphenyl}-N'-[(1R)-1-(1,3-thiazol-2-yl)ethyl]urea.

86. A pharmaceutical composition comprising a compound according to any one of claims 1 to 85 or a pharmaceutically acceptable salt or solvate thereof as an active ingredient.

87. The pharmaceutical composition according to claim 86, which is used in the treatment and prevention of a disease for which the inhibition of macrophage colony-stimulating factor receptor autophosphorylation is effective therapeutically.

88. The pharmaceutical composition according to claim 87, wherein the disease for which the inhibition of macrophage colony-stimulating factor receptor autophosphorylation is effective therapeutically is bone metastasis of malignant tumors

including breast cancer, prostatic cancer, and lung cancer; multiple myeloma; osteoporosis; Behcet's disease; or rheumatoid arthritis.

89. Use of a compound according to any one of claims 1 to 85 or a pharmaceutically acceptable salt or solvate thereof, for the manufacture of an agent used in the treatment and prevention of a disease for which the inhibition of macrophage colony-stimulating factor receptor autophosphorylation is effective therapeutically.

90. Use according to claim 89, wherein the disease for which the inhibition of macrophage colony-stimulating factor receptor autophosphorylation is effective therapeutically is bone metastasis of malignant tumors including breast cancer, prostatic cancer, and lung cancer; multiple myeloma; osteoporosis; Behcet's disease; or rheumatoid arthritis.

91. A method for treating and preventing a disease for which the inhibition of macrophage colony-stimulating factor receptor autophosphorylation is effective therapeutically, said method comprising the step of administering a therapeutically or prophylactically effective amount of a compound according to any one of claims 1 to 85 or a pharmaceutically acceptable salt or solvate thereof to a mammal.

92. The method for treating and preventing according to claim 91, wherein the disease for which the inhibition of macrophage colony-stimulating factor receptor autophosphorylation is effective therapeutically is bone metastasis of malignant tumors including breast cancer, prostatic cancer, and lung cancer; multiple myeloma; osteoporosis; Behcet's disease; or rheumatoid arthritis.